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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,253	04/13/2001	Christopher J. Moullos	70156/138	5020
26371	7590	06/06/2005	EXAMINER	
FOLEY & LARDNER 777 EAST WISCONSIN AVENUE SUITE 3800 MILWAUKEE, WI 53202-5308			SELLERS, DANIEL R	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/835,253	MOULIOS, CHRISTOPHER J.	
	Examiner	Art Unit	
	Daniel R. Sellers	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/23/2004 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "refining length operation which would take place after the identification....") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
3. The American Heritage College Dictionary defines the word refine as such:
 1. To reduce to a pure state; purify.
 2. To remove by purifying.
 3. To free from coarse, unsuitable, or immoral characteristics.

The prior art recited, Kraft et al. (hereinafter Kraft), teaches a method wherein the song file is reduced to a state of single events, or notes, in a suffix tree (Col. 11, lines 6-31). Each leaf of a suffix tree is compared to other leaves to find the multiple non-overlapping occurrences. Inherently a device that parses the suffix tree will compare each leaf to the others to find the best matches, and the best match will have a refined length as compared to the overall song structure, or the second best match. Therefore, Kraft teaches a system, as claimed, which can detect repeating melodies of the same length and melodies of the same length that are shifted in time with respect to the beginning or end of a measure.

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4. The original rejections of claims 1-20 are reiterated below.

Claim Rejections - 35 USC § 102

1. Claim 1-3, 5, 6, 8-13, 15, and 17-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kraft et al. (Kraft), U.S. Patent No. 6,225,546.

2. Regarding claim 1, see Kraft,

A method of determining a period of recurring events within a recorded signal, the method comprising: establishing one or more anchor points in the recorded signal, the anchor point being indicative of a beginning point for a period of recurring events in the recorded signal; (Col. 2, lines 30-36). determining a length for the period of recurring events in the recorded signal, the length starting from the established anchor point and defining a first loop; and refining the length for the period of recurring events by comparing the first loop with subsequent loops, the subsequent loops having the length of the first loop. (Col. 8, lines 1-7).

Kraft teaches a system of summarizing a musical piece, wherein the summary consists the identification of a main melody of a musical piece. It is inherent that not all musical pieces have a steady tempo throughout, whether the original recording artist intends this feature or not. It is inherent that the teachings of Kraft require a determination and refining of the length of a loop.

3. Regarding claim 2, the further limitation of claim 1,

... further comprising determining if the recorded signal is rhythmic. (Col. 5, lines 44-48)

Kraft teaches a system which determines the tempo of a recorded musical piece and creates a MIDI music file from the musical piece.

4. Regarding claim 3, the further limitation of claim 1,

... wherein the step of establishing an anchor point in the recorded signal comprises utilizing digital signal processing techniques to identify where recurring events begin.

Kraft teaches a system that uses digital signal processing techniques.

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5. Regarding claim 5, the further limitation of claim 1, see the above rejections of claims 1 and 3. Kraft teaches the use of digital signal processing techniques.

6. Regarding claim 6, the further limitation of claim 5, see Kraft

... wherein the digital signal processing techniques compare a first portion of the recorded signal with a second portion of the recorded signal, the first portion and the second portion having the same length. (Col. 10, lines 47-50 and Col. 11, lines 65-67).

Kraft teaches the comparison of several portions within a recorded signal. Kraft further teaches that the various portions can be of varying length, and it is inferred that the various portions can be of the same length.

7. Regarding claim 8, the further limitation of claim 1, see the above rejection of claim 6. Kraft teaches an algorithm, which compares several loops for a repetitive structure utilizing digital signal processing techniques.

8. Regarding claim 9, the further limitation of claim 8, see the above rejection of claim 6. Kraft teaches an algorithm, which compares various portions of a recorded signal and considers portions with varying lengths. It is inherent that the algorithm has information pertaining to the lengths of loops, and the algorithm can change these lengths dynamically.

9. Regarding claim 10, the further limitation of claim 1, see Kraft

... wherein the step of refining the length for the period of recurring events comprises using the distance between multiple anchor points as a guide to estimate an approximate count of time periods from which a tempo can be derived. (Col. 5, lines 16-18, lines 22-31, and lines 44-48).

Kraft teaches a system that creates a MIDI file with tempo information from an audio file in a .WAV or .AU format. It is inherent that the system uses a method comparing multiple distances between anchor points to determine a tempo.

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10. Regarding claim 11, see the above rejection of claim 1. Kraft teaches these features.

11. Regarding claim 12, the further limitation of claim 11, see the above rejections of claims 1 and 6. Kraft teaches the adjusting of lengths.

12. Regarding claim 13, the further limitation of claim 11, see the above rejection of claim 1. Kraft teaches a system that provides a means for identifying where recurring events begin.

13. Regarding claim 15, the further limitation of claim 11, see the above rejections of claims 1, 6, and 9. Kraft teaches a system that searches for repetitive loops in an audio file.

14. Regarding claim 17, the further limitation of claim 11, see Kraft,

... further comprising means for presenting the recorded signal and loops in the recorded signal. (Col. 4, lines 17-20 and 24-26).

Kraft teaches the use of a computer system with both an audio output and a visual display. It is inherent, given the nature of the system, that a readable output is displayed and an audio output is presented for a user of the system.

15. Regarding claim 18, see the above rejection of claim 1. Kraft teaches a system with these features.

16. Regarding claim 19, the further limitation of claim 17, see Kraft

... further comprising a presentation device, wherein the presentation device is configured to provide a graphical user interface which presents portions of the recorded signal. (Col. 5, lines 31-35).

Kraft teaches a system that searches for repetitive structure in an audio file. Kraft also teaches the system utilizes a display, see the above rejection of claim 17. Kraft teaches

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the use of various other programs, which can display portions of an audio signal in a graphical user interface. It is inherent that Kraft's system can provide portions of an audio signal in a graphical user interface.

17. Regarding claim 20, the further limitation of claim 17, see Kraft

... further comprising an interface device configured to connect the CPU with a network of computers. (Col. 14, lines 3-9).

Kraft teaches a system that can be distributed for use through a network of computers.

It is inherent that not only the system can be distributed for use, but that the interface of one computer in a network can manipulate data from another computer in the same network.

Claim Rejections - 35 USC § 103

18. Claims 4, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft.

19. Regarding claim 4, the further limitation of claim 1, see Kraft

... wherein the step of establishing an anchor point in the recorded signal comprises receiving an indication of a location on the recorded signal from a computer input device. (Col. 4, lines 15-23).

Kraft teaches a system with various computer input devices. Kraft also teaches the use of digital signal processing techniques for the purpose of detecting repetitive patterns in a music file. Kraft does not specifically teach that the user inputs the anchor point location via a computer input device. It would have been obvious for one of ordinary skill in the art to combine the teachings of Kraft with the inherent use of an input device in a music editor software program for the purpose of better pattern recognition.

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20. Regarding claim 7, the further limitation of claim 1, see the above rejections of claims 1 and 4.

... wherein the step of determining a length for the period of recurring events in the recorded signal comprises receiving an indication of a length of the period on the recorded signal from a computer input device.

21. Regarding claim 14, the further limitation of claim 11, see the above rejection of claim 4.

22. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraft as applied to claim 11 above, and further in view of Marx, U.S. Patent No. 5,734,731.

23. Regarding claim 16, the further limitation of claim 11, see Marx

... further comprising means for combining recorded signals with unknown tempos. (Col. 10, lines 19-24).

Marx teaches a system that mixes audio. Marx does not teach a system that looks for repetitive structure in audio files. Kraft teaches a system that determines the repetitive structure of an audio file, but Kraft does not teach a system that mixes two signals with unknown tempos. However, Kraft does teach a system that determines a tempo of a recorded signal. It would have been obvious for one of ordinary skill in the art to combine the teachings of Kraft and Marx for the purpose of easily mixing songs in real time.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Sinh Tran', with a long horizontal stroke extending to the right.

DRS

SINH TRAN
SUPERVISORY PATENT EXAMINER